

IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. - 7. (Canceled)

8. (Currently Amended) A method of encoding digital samples of a set of data representing physical quantities, the encoding including the determination of an amplitude model and of a path between the samples of the set, ~~characterized in that it comprises the steps of the method comprising:~~

[[-]] determining (~~S5a, S20a, S25a~~) a number of samples to encode; [[,]]

[[-]] constructing (~~S3a, S21a~~) a list comprising the determined number of samples, classified by decreasing amplitude;

determining an initial list of samples;

calculating an encoding cost as a function of the list of samples; and

modifying the list of samples,

wherein said steps of calculating and modifying are reiterated to find a minimum encoding cost, and

wherein the modification of the list of samples comprises the withdrawal of the sample of least amplitude.

9. (Canceled)

10. (Currently Amended) A method according to claim ~~[[9]]~~ 8,
~~characterized in that it further comprises~~ comprising the step (S10a) of encoding the set of
data on the basis of the list of samples which provides the minimum encoding cost.

11. (Currently Amended) A method according to claim ~~[[9]]~~ 8,
~~characterized in that~~ in which the initial list of samples comprises all the samples of the set
of data.

12. (Canceled)

13. (Currently Amended) A method according to claim ~~[[9]]~~ 8,
~~characterized in that~~ in which the encoding cost (S6a) comprises the rate of the encoded
data.

14. (Currently Amended) A method according to claim ~~[[9]]~~ 8,
~~characterized in that~~ in which the encoding cost (S6a) comprises the distortion of the
encoded data.

15. (Currently Amended) A method ~~according to claim 8, of encoding~~
digital samples of a set of data representing physical quantities, the encoding including the
determination of an amplitude model and of a path between the samples of the set, the
method comprising:

determining a number of samples to encode; and
constructing a list comprising the determined number of samples, classified
by decreasing amplitude,

the method further comprising an initialization of an evolutionary algorithm according to which a population of lists of samples is determined, the population comprising a predetermined number of lists, ~~characterized~~ in ~~[[that]]~~ which the determination of the population comprises the steps of:

[[-]] determining (S21a) a first list of samples classified by decreasing amplitude; and [[,]]

[[-]] modifying (S25a) the first list by withdrawal of a predetermined number of samples of lowest amplitude, to form a second list; [[,]]

wherein said ~~[[the]]~~ steps of determining and modifying ~~[[being]]~~ are reiterated by taking the second list of an iteration as the first list for the ~~following~~ next iteration, provided that the predetermined number of lists has not been reached (S23a) and that the second list has a non-zero number of samples (S24a).

16. (Currently Amended) A method according to claim 15, ~~characterized in that in which~~ the population is completed (S26a) by lists picked randomly, if the second list formed has a zero number of samples before the predetermined number of lists has been reached.

17. (Currently Amended) A method according to claim 8, ~~characterized in~~
~~that in which~~ the set of data is a block of samples formed in a larger set of data.

18. (Currently Amended) A method according to claim 8, ~~characterized in~~
~~that in which~~ the data are a digital image.

19. - 38. (Canceled)

39. (Currently Amended) A device for encoding digital samples of a set of
data representing physical quantities, comprising means for determining an amplitude
model and a path between the samples of the set, ~~characterized in that it comprises (2a)~~ the
device comprising:

[[-]] means ~~(22a)~~ for determining a number of samples to encode; [[.]]

[[-]] means ~~(23a)~~ for constructing a list comprising the determined number of
samples, classified by decreasing amplitude;

means for determining an initial list of samples;

means for calculating an encoding cost as a function of the list of samples;

and

means for modifying the list of samples,

wherein the operation of said means for calculating and means for
modifying is reiterated to find a minimum encoding cost, and

said means for modifying the list of samples are adapted to withdraw the

sample of least amplitude.

40. (Canceled)

41. (Currently Amended) A device according to claim ~~[[40]]~~ 39,
~~characterized in that further comprises~~ comprising means for encoding the set of data on
the basis of the list of samples which provides the minimum encoding cost.

42. (Currently Amended) A device according to claim ~~[[40]]~~ 39,
~~characterized in that the~~ wherein said means for determining the initial list of samples are
adapted to form ~~[[it]]~~ the initial list of samples to comprise ~~such that it comprises~~ all the
samples of the set of data.

43. (Canceled)

44. (Currently Amended) A device according to claim ~~[[40]]~~ 39,
~~characterized in that it is~~ adapted to consider an encoding cost which comprises the rate of
the encoded data.

45. (Currently Amended) A device according to claim ~~[[40]]~~ 39,
~~characterized in that it is~~ adapted to consider an encoding cost which comprises the
distortion of the encoded data.

46. (Currently Amended) A device ~~according to claim 39,~~ for encoding digital samples of a set of data representing physical quantities, comprising means for determining an amplitude model and a path between the samples of the set, the device comprising:

means for determining a number of samples to encode;

means for constructing a list comprising the determined number of samples, classified by decreasing amplitude;

the device further comprising means for initializing an evolutionary algorithm according to which a population of lists of samples is determined, the population comprising a predetermined number of lists, ~~characterized in that the~~ in which said means for determining the population comprises:

[[-]] means for determining a first list of samples classified by decreasing amplitude; and [[,]]

[[-]] means for modifying the first list by withdrawal of a predetermined number of samples of lowest amplitude, to form a second list,

wherein the operation of ~~[[the]]~~ said means for determining and said means for modifying ~~[[being]]~~ is reiterated by taking the second list of an iteration as the first list for the ~~following~~ next iteration, provided that the predetermined number of lists has not been reached and that the second list has a non-zero number of samples.

47. (Currently Amended) A device according to claim 46, ~~characterized in that it is~~ adapted to complete the population by lists picked randomly, if the second list

formed has a zero number of samples before the predetermined number of lists has been reached.

48. (Currently Amended) A device according to claim 39, ~~characterized in that it is~~ adapted to encode a set of data which is a block of samples formed in a larger set of data.

49. (Currently Amended) A device according to claim 39, ~~characterized in that it is~~ adapted to encode data which are a digital image.

50. (Currently Amended) An encoding device according to claim 39, ~~characterized in that the~~ wherein said means for determining and construction are incorporated in:

[[-]] a microprocessor [[(100)]],

[[-]] a read only memory [[(102)]], comprising a program for processing the data,
and

[[-]] a random access memory [[(103)]] comprising registers adapted to record variables modified during the execution of said program.

51. - 69. (Canceled)